

SEQUENCE LISTING

<110> Brett P. Monia
Lex M. Cowser

<120> ANTISENSE MODULATION OF CREB EXPRESSION

<130> RTS-0237

<160> 37

<210> 1

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 1

tccgtcatcg ctcctcaggg

20

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2

atgcattctg cccccaagga

20

<210> 3

<211> 2454

<212> DNA

<213> Homo sapiens

<220>

<220>

<221> CDS

<222> (117)...(1100)

<400> 3

cgcgggcggag gtgtagtttg acgcggtgtg ttacgtgggg gagagaataa aactccagcg 60

agatccgggc cgtgaacgaa agcagtgacg gaggagcttg taccaccggt aactaa atg 119
Met
1

acc atg gaa tct gga gcc gag aac cag cag agt gga gat gca gct gta 167
Thr Met Glu Ser Gly Ala Glu Asn Gln Gln Ser Gly Asp Ala Ala Val
5 10 15

aca gaa gct gaa aac caa caa atg aca gtt caa gcc cag cca cag att 215
Thr Glu Ala Glu Asn Gln Gln Met Thr Val Gln Ala Gln Pro Gln Ile
20 25 30

gcc aca tta gcc cag gta tct atg cca gca gct cat gca aca tca tct 263
Ala Thr Leu Ala Gln Val Ser Met Pro Ala Ala His Ala Thr Ser Ser
35 40 45

gct ccc acc gta act cta gta cag ctg ccc aat ggg cag aca gtt caa 311
Ala Pro Thr Val Thr Leu Val Gln Leu Pro Asn Gly Gln Thr Val Gln
50 55 60 65

gtc cat gga gtc att cag gcg gcc cag cca tca gtt att cag tct cca 359
Val His Gly Val Ile Gln Ala Ala Gln Pro Ser Val Ile Gln Ser Pro
70 75 80

caa gtc caa aca gtt cag att tca act att gca gaa agt gaa gat tca 407
Gln Val Gln Thr Val Gln Ile Ser Thr Ile Ala Glu Ser Glu Asp Ser
85 90 95

cag gag tca gtg gat agt gta act gat tcc caa aag cga agg gaa att 455
Gln Glu Ser Val Asp Ser Val Thr Asp Ser Gln Lys Arg Arg Glu Ile
100 105 110

ctt tca agg agg cct tcc tac agg aaa att ttg aat gac tta tct tct	503
Leu Ser Arg Arg Pro Ser Tyr Arg Lys Ile Leu Asn Asp Leu Ser Ser	
115 120 125	
gat gca cca gga gtg cca agg att gaa gaa gag aag tct gaa gag gag	551
Asp Ala Pro Gly Val Pro Arg Ile Glu Glu Glu Lys Ser Glu Glu Glu	
130 135 140 145	
act tca gca cct gcc atc acc act gta acg gtg cca act cca att tac	599
Thr Ser Ala Pro Ala Ile Thr Thr Val Thr Val Pro Thr Pro Ile Tyr	
150 155 160	
caa act agc agt gga cag tat att gcc att acc cag gga gga gca ata	647
Gln Thr Ser Ser Gly Gln Tyr Ile Ala Ile Thr Gln Gly Gly Ala Ile	
165 170 175	
cag ctg gct aac aat ggt acc gat ggg gta cag ggc ctg caa aca tta	695
Gln Leu Ala Asn Asn Gly Thr Asp Gly Val Gln Gly Leu Gln Thr Leu	
180 185 190	
acc atg acc aat gca gca gcc act cag ccg ggt act acc att cta cag	743
Thr Met Thr Asn Ala Ala Ala Thr Gln Pro Gly Thr Thr Ile Leu Gln	
195 200 205	
tat gca cag acc act gat gga cag cag atc tta gtg ccc agc aac caa	791
Tyr Ala Gln Thr Thr Asp Gly Gln Gln Ile Leu Val Pro Ser Asn Gln	
210 215 220 225	
gtt gtt gtt caa gct gcc tct gga gac gta caa aca tac cag att cgc	839
Val Val Val Gln Ala Ala Ser Gly Asp Val Gln Thr Tyr Gln Ile Arg	
230 235 240	
aca gca ccc act agc act att gcc cct gga gtt gtt atg gca tcc tcc	887
Thr Ala Pro Thr Ser Thr Ile Ala Pro Gly Val Val Met Ala Ser Ser	
245 250 255	
cca gca ctt cct aca cag cct gct gaa gaa gca gca cga aag aga gag	935
Pro Ala Leu Pro Thr Gln Pro Ala Glu Glu Ala Ala Arg Lys Arg Glu	
260 265 270	
gtc cgt cta atg aag aac agg gaa gca gct cga gag tgt cgt aga aag	983
Val Arg Leu Met Lys Asn Arg Glu Ala Ala Arg Glu Cys Arg Arg Lys	
275 280 285	

aag aaa gaa tat gtg aaa tgt tta gaa aac aga gtg gca gtg ctt gaa 1031
Lys Lys Glu Tyr Val Lys Cys Leu Glu Asn Arg Val Ala Val Leu Glu
290 295 300 305

aat caa aac aag aca ttg att gag gag cta aaa gca ctt aag gac ctt 1079
Asn Gln Asn Lys Thr Leu Ile Glu Glu Leu Lys Ala Leu Lys Asp Leu
310 315 320

tac tgc cac aaa tca gat taa tttgggattt aaattttcac ctgttaaggt 1130
Tyr Cys His Lys Ser Asp
325

ggaaaatgga ctggcttggc cacaacctga aagacaaaat aaacatttta ttttctaaac 1190

atttcttttt ttctatgccc aaaactgcct gaaagcaact acagaatttc attcatttgt 1250

gcttttgcac taaactgtga atgttccaac acctgcctcc acttctcccc tcaagaaatt 1310

ttcaacgccca ggaatcatga agagacttct gcttttcaac cccaccctc ctcaagaagt 1370

aataatttgt ttacttgtaa attgatggga gaaatgagga aaagaaaatc tttttaaaaa 1430

tgatttcaag gtttgtgctg agctccttga ttgccttagg gacagaatta cccagcctc 1490

ttgagctgaa gtaatgtgtg ggccgcatgc ataaagtaag taagggtgcaa tgaagaagt 1550

ttgattgcca aattgacatg ttgtcacatt ctcatgtga attatgtaaa gttgttaaga 1610

gacataccct ctaaaaaaga acttttagcat ggtattgaag gaattagaaa tgaatttgga 1670

gtgcttttta tgtatgttgt cttcttcaat actgaaaatt tgtccttggg tcttaaaagc 1730

attctgtact aatacagctc ttccataggg cagttgttgc ttcttaattc agttctgtat 1790

gtgttcaaca tttttgaata cattaaga agtaaccaac tgaacgacaa agcatggat 1850

ttgaatttta aattaaagca aagtaaataa aagtacaaag catatttttag ttagtactaa 1910

attcttagta aaatgctgat cagtaaacca atcccttgag ttatataaca agatttttaa 1970

ataaatgtta ttgtcctcac cttcaaaaat atttatattg tcaactcatt acgtaaaaag 2030

atatttctaa ttactgttg cccattgcac ttacatacca ccaccaagaa agccttcaag 2090

atgtcaaata aagcaaagt atatatat ttttatgaaa tttacatgt agaaaaatac 2150
tgattttaaa tttttccat attaacaatt taacagagaa tctctagtga attttttaaa 2210
tgaaagaagt tgtaaggata taaaaagtag agtggttagat gtgcacaagg aaagttattt 2270
tcagacatat ttgaatgact gctgtactgc aatatttgga ttgtcattct tacaaaacat 2330
ttttttgttc tcttgtaaaa agagtagtta ttagttctgc tttagctttc caatatgctg 2390
tatagccttt gtcattttat aattttaatt cctgattaaa acagtctgta tttgtgtata 2450
tcatt 2454

<210> 4
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 4
tcattctgctc ccaccgtaac t 21

<210> 5
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 5
cctgaatgac tccatggact tg 22

<210> 6
<211> 27
<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 6

tagtacagct gcccaatggg cagacag

27

<210> 7

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7

gaaggtgaag gtcggagtc

19

<210> 8

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8

gaagatggtg atgggatttc

20

<210> 9

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 9

caagcttccc gttctcagcc

20

<210> 10

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 10

acacaccgcg tcaaactaca

20

<210> 11

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 11

tgcattctcca ctctgctggt

20

<210> 12

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 12

cttgaactgt catttggttg

20

<210> 13

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 13

agttacgggtg ggagcagatg

20

<210> 14

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 14

ctgcccattg ggcagctgta

20

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 15

actgatggct gggccgcctg

20

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 16

tggcaggtgc tgaagtctcc

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 17

ctgtccactg ctagtttggt

20

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 18

aggccctgta ccccatcggt

20

<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 19

attgggtcatg gttaatgttt

20

<210> 20

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 20

gtgcatactg tagaatggta

20

<210> 21

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 21

gctgtgtagg aagtgctggg

20

<210> 22

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 22

ctctctcttt cgtgctgctt

20

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 23

tttgtggcag taaaggctct

20

<210> 24

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 24

atcccaaatt aatctgattt

20

<210> 25

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 25

ttgtggccaa gccagtccat

20

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 26

ctgtagttgc tttcaggcag

20

<210> 27

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 27

ggcgttgaaa atttcttgag

20

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 28

ttttcttttc ctcatttctc

20

<210> 29

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 29

ttatgcatgc ggccacaca

20

<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 30

tccttcaata ccatgctaaa

20

<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31

agctgtatta gtacagaatg

20

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32

ggttacttct tttaatgtat

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33

gctttgtact tttatttact

20

<210> 34

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34

gtggtatgta agtgcaatgg

20

<210> 35

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 35

ttctctgtta aattgttaat

20

<210> 36

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

RTS-0237

-15-

PATENT

<400> 36

tgccgtacag cagtcattca

20

<210> 37

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 37

caggaattaa aattataaaa

20